

Amendments To The Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (canceled).

Claim 2 (Currently Amended): ~~[[The]]~~ An information processing system ~~according to claim 1, comprising:~~

a plurality of information processing devices each comprising program execution means;
at least a first information processing device of the plurality of the information processing devices further comprising:

metric information management means for storing metric information in an updatable manner, said metric information representing processing capability metric of a part or whole of other information processing devices of the plurality of information processing devices excluding the first information processing device itself;

load measurement means for measuring an actual magnitude of a load of an information processing request received at said at least first information processing device;

determination means for determining at least one available device by comparing the actual magnitude of the load measured by the load measurement means and the metric information stored in said metric information management means, said at least one available device being capable of executing a part or whole of said information processing request; and

task assignment means for assigning a task corresponding to a part or whole of the information processing request to the at least one available device determined by said determination means;

wherein said metric information management means includes:

first list management means for acquiring first metric information representative of static processing capability metric of said other information processing devices to determine one or more available devices , and storing a first list in a predetermined memory area, said first list

being such that the one or more available devices determined are listed; and

second management means for measuring second metric information representative of dynamic processing capability metric of the one or more available devices listed in said first list, creating a second list such that the second metric information measured is classified and listed per processing capability metric, sorting the available devices having the second metric information listed in the second list according to the task execution condition to determine at least one available device suitable for each task execution condition, and storing an index list, in which the determined at least one available device is listed, in a predetermined memory area;

wherein the second metric information of the available devices listed in the index list is read from said memory area and supplied as said metric information to said determination means.

Claim 3 (previously presented): The information processing system according to claim 2, wherein:

said first list management means uses, as said first metric information, configuration information of the program execution means provided by each of said other information processing devices and information representative of a type of program that is executable by said program execution means, and compares said first metric information regarding the other information processing devices, thereby determining a listing order in said first list.

Claim 4 (previously presented): The information processing system according to claim 2, wherein:

said second list management means sends a processing request to each of the one or more available devices listed in said first list, and receives a response result corresponding to the processing request, thereby acquiring said second metric information of each of the one or more available devices .

Claim 5 (previously presented): The information processing system according to claim 4, wherein:

said second list management means weights said second metric information with one or more coefficient values each corresponding to a type of processing metric, thereby creating said second list per processing metric.

Claim 6 (Currently Amended): ~~[[The]]~~ An information processing system according to claim 1, comprising:

a plurality of information processing devices each comprising program execution means; at least a first information processing device of the plurality of the information processing devices further comprising:

metric information management means for storing metric information in an updatable manner, said metric information representing processing capability metric of a part or whole of other information processing devices of the plurality of information processing devices excluding the first information processing device itself;

load measurement means for measuring an actual magnitude of a load of an information processing request received at said at least first information processing device;

determination means for determining at least one available device by comparing the actual magnitude of the load measured by the load measurement means and the metric information stored in said metric information management means, said at least one available device being capable of executing a part or whole of said information processing request; and

task assignment means for assigning a task corresponding to a part or whole of the information processing request to the at least one available device determined by said determination means;

wherein said metric information management means includes:

first list management means for acquiring first metric information representative of static processing capability metric of said other information processing devices, determining one or more available devices, and storing a first list, in which the determined one or more available devices are listed, in a predetermined memory area; and

second list management means for measuring second metric information representative of dynamic processing capability metric of the one or more available devices listed in said first list,

and weighting the second metric information measured with a coefficient value corresponding to each of a plurality of task execution conditions, thereby storing a second list in a predetermined memory area, said second list being such that available devices having second metric information that differ depending upon task execution conditions are listed;

wherein the second metric information of the devices listed in the second list is read from said memory area and supplied as said metric information to said determination means.

Claim 7 (original): The information processing system according to claim 2, wherein:
said second list management means updates said created second list and said index list more frequently than said first list.

Claim 8 (previously presented): The information processing system according to claim 4, wherein:

said plurality of information processing devices are interconnected via a network, and
said second list management means sends said processing request via said network, and receives the response result corresponding to the processing request via said network.

Claim 9 (Currently Amended): The information processing system according to claim
[[1]] 2, wherein at least one of said plurality of information processing devices is configured so that:

said program execution means is partitioned into a plurality of clusters; and
an operating status of each cluster is provided to other information processing devices.

Claim 10 (original): The information processing system according to claim 9, wherein:
at least one of said plurality of information processing devices notifies said other information processing devices of the number of available clusters to be used by the other information processing device as said operating status.

Claim 11 (Currently Amended): An information processing device for executing

information processing comprising:

program execution means partitioned into a plurality of clusters;

metric information management means for storing metric information in an updateable manner, said metric information representing processing capability metric of each of the plurality of clusters of said program execution means;

load measurement means for measuring a magnitude of a load of an information processing requested received at said at least first information processing device, wherein the magnitude of the load is unpredictable;

determination means for determining one or more available clusters by comparing the magnitude of the load measured by said load measurement means and the metric information stored in said metric information management means, said one or more available clusters capable of executing a part or whole of said information processing requested ;

task assignment means for assigning a part or whole of said information processing requested to each of said one or more clusters determined by said determination means; and

output means for combining execution results from the respective clusters assigned by said task assignment means and outputting the combined results;

wherein said metric information management means includes:

first list management means for acquiring first metric information representative of static processing capability metric of each of the plurality of clusters of said program execution means to determine one or more available clusters , and storing a first list in a predetermined memory area, said first list being such that the one or more available clusters determined are listed; and

second management means for measuring second metric information representative of dynamic processing capability metric of the one or more available clusters listed in said first list, creating a second list such that the second metric information measured is classified and listed per processing capability metric, sorting the available clusters having the second metric information listed in the second list according to the task execution condition to determine at least one available cluster suitable for each task execution condition, and storing an index list, in which the determined at least one available cluster is listed, in a predetermined memory area;

wherein the second metric information of the available clusters listed in the index list is

read from said memory area and supplied as said metric information to said determination means.

Claim 12 (Previously presented): The information processing device according to claim 11, further comprising:

processing request execution means for executing required information processing corresponding to a processing request issued by another information processing device, and returning the execution result thereof, together with a transmission start time, to said another information processing device; and

notification means for providing the metric information stored in said metric information management means to other information processing devices.

Claim 13 (original): The information processing device according to claim 11, wherein: each of said plurality of clusters further comprises a processor.

Claim 14 (Currently Amended): A distributed information processing method, wherein: each of a plurality of information processing devices interconnected via a network measures processing capability metric of other information processing devices through the network, and mutually stores metric information representative of the measured processing capability metric in a predetermined memory area in an updateable manner, wherein a part of resources of a program execution means of one or more of the plurality of information processing devices is available for use in another information processing device in response to a processing request, and

at each of the information processing devices, when a request occurs for information processing at said information processing device, such that the magnitude of the load of said information processing is unpredictable, the information processing device where a request for such information processing has occurred executes the processes of:

measuring a magnitude of the load of said information processing; comparing the magnitude of the load measured and the metric information stored in said memory area to

determine one or more available devices capable of executing a part or whole of said requested information processing ; assigning at least a part of said requested information processing to the one or more available devices determined; combining the execution results of the assigned devices; and outputting the combined execution results;

wherein said measuring processing capability metric of other information processing devices through the network comprises:

acquiring first metric information representative of static processing capability metric of said other information processing devices to determine one or more available devices , and storing a first list in the predetermined memory area, said first list being such that the one or more available devices determined are listed; and

measuring second metric information representative of dynamic processing capability metric of the one or more available devices listed in said first list, creating a second list such that the second metric information measured is classified and listed per processing capability metric, sorting the available devices having the second metric information listed in the second list according to the task execution condition to determine at least one available device suitable for each task execution condition, and storing an index list, in which the determined at least one available device is listed, in a predetermined memory area;

wherein the second metric information of the available devices listed in the index list is read from said memory area and supplied as said metric information to said determination means.

Claim 15 (Currently Amended): A computer-readable storage medium storing a computer program which causes an information processing device to execute processes of:

measuring processing capability metric of a plurality of other information processing devices connected to the information processing device via a network through said network;

storing metric information representative of the measured processing capability metric of the other information processing devices in a predetermined memory area in an updateable manner;

when a certain request for information processing occurs at said at least first information

processing device such that the magnitude of load of the requested information processing is unpredictable ~~occurs~~, measuring the magnitude of the load of such information processing;

comparing the magnitude of the load measured and the metric information stored in said memory area to determine one or more available devices such that at least a part of said requested information processing can be distributed to the one or more available devices and executed in the available device;

assigning at least a part of said requested information processing to the one or more available devices determined; and

combining the execution results of the one or more assigned available devices and outputting the combined results;

wherein said measuring processing capability metric of other information processing devices and storing metric information representative of the measured processing capability metric of other information processing devices comprises:

acquiring first metric information representative of static processing capability metric of said other information processing devices to determine one or more available devices , and storing a first list in the predetermined memory area, said first list being such that the one or more available devices determined are listed; and

measuring second metric information representative of dynamic processing capability metric of the one or more available devices listed in said first list, creating a second list such that the second metric information measured is classified and listed per processing capability metric, sorting the available devices having the second metric information listed in the second list according to the task execution condition to determine at least one available device suitable for each task execution condition, and storing an index list, in which the determined at least one available device is listed, in a predetermined memory area;

wherein the second metric information of the available devices listed in the index list is read from said memory area and supplied as said metric information to said determination means.

Claim 16 (Currently Amended): The information processing system according to claim

[[1]] 2, wherein the at least one available device comprises:

second metric information management means for storing metric information in an updatable manner, said metric information representing processing metric of a part or whole of the other information processing devices of the plurality of information processing devices excluding the at least one available device itself;

second load measurement means for measuring the magnitude of the load of the information processing requested corresponding to the task;

second determination means for determining at least one other available device by comparing the magnitude of the load measured by the second load measurement means and the metric information stored in said second metric information management means, said at least one other available device being capable of executing a part or whole of said information processing requested corresponding to the task; and

second task assignment means for assigning the part or whole of the information processing requested corresponding to the task to the at least one other available device determined by said determination means.

Claim 17 (new): A distributed information processing method, wherein:

each of a plurality of information processing devices interconnected via a network measures processing capability metric of other information processing devices through the network, and mutually stores metric information representative of the measured processing capability metric in a predetermined memory area in an updateable manner, wherein a part of resources of a program execution means of one or more of the plurality of information processing devices is available for use in another information processing device in response to a processing request, and

at each of the information processing devices, when a request occurs for information processing such that the magnitude of the load of said information processing is unpredictable, the information processing device where a request for such information processing has occurred executes the processes of:

measuring a magnitude of the load of said information processing; comparing the

magnitude of the load measured and the metric information stored in said memory area to determine one or more available devices capable of executing a part or whole of said requested information processing ; assigning at least a part of said requested information processing to the one or more available devices determined; combining the execution results of the assigned devices; and outputting the combined execution results;

wherein said measuring processing capability metric of other information processing devices through the network comprises:

acquiring first metric information representative of static processing capability metric of said other information processing devices, determining one or more available devices , and storing a first list, in which the determined one or more available devices are listed, in a predetermined memory area; and

measuring second metric information representative of dynamic processing capability metric of the one or more available devices listed in said first list, and weighting the second metric information measured with a coefficient value corresponding to each of a plurality of task execution conditions, thereby storing a second list in a predetermined memory area, said second list being such that available devices having second metric information that differ depending upon task execution conditions are listed;

wherein the second metric information of the devices listed in the second list is read from said memory area and supplied as said metric information to said determination means.

Claim 18 (new): A computer-readable storage medium storing a computer program which causes an information processing device to execute processes of:

measuring processing capability metric of a plurality of other information processing devices connected to the information processing device via a network through said network;

storing metric information representative of the measured processing capability metric of the other information processing devices in a predetermined memory area in an updateable manner;

when a certain request for information processing such that the magnitude of load of the requested information processing is unpredictable occurs, measuring the magnitude of the load

of such information processing;

comparing the magnitude of the load measured and the metric information stored in said memory area to determine one or more available devices such that at least a part of said requested information processing can be distributed to the one or more available devices and executed in the available device;

assigning at least a part of said requested information processing to the one or more available devices determined; and

combining the execution results of the one or more assigned available devices and outputting the combined results;

wherein said measuring processing capability metric of other information processing devices and storing metric information representative of the measured processing capability metric of other information processing devices comprises:

acquiring first metric information representative of static processing capability metric of said other information processing devices, determining one or more available devices, and storing a first list, in which the determined one or more available devices are listed, in a predetermined memory area; and

measuring second metric information representative of dynamic processing capability metric of the one or more available devices listed in said first list, and weighting the second metric information measured with a coefficient value corresponding to each of a plurality of task execution conditions, thereby storing a second list in a predetermined memory area, said second list being such that available devices having second metric information that differ depending upon task execution conditions are listed;

wherein the second metric information of the devices listed in the second list is read from said memory area and supplied as said metric information to said determination means.

Claim 19 (new): An information processing device for executing information processing comprising:

program execution means partitioned into a plurality of clusters;

metric information management means for storing metric information in an updateable

manner, said metric information representing processing capability metric of each of the plurality of clusters of said program execution means;

load measurement means for measuring a magnitude of a load of an information processing request received at said at least first information processing device, wherein the magnitude of the load is unpredictable;

determination means for determining one or more available clusters by comparing the magnitude of the load measured by said load measurement means and the metric information stored in said metric information management means, said one or more available clusters capable of executing a part or whole of said information processing requested ;

task assignment means for assigning a part or whole of said information processing requested to each of said one or more clusters determined by said determination means; and

output means for combining execution results from the respective clusters assigned by said task assignment means and outputting the combined results;

wherein said metric information management means includes:

first list management means for acquiring first metric information representative of static processing capability metric of each of the plurality of clusters of said program execution means, determining one or more available clusters , and storing a first list, in which the determined one or more available clusters are listed, in a predetermined memory area; and

second list management means for measuring second metric information representative of dynamic processing capability metric of the one or more available clusters listed in said first list, and weighting the second metric information measured with a coefficient value corresponding to each of a plurality of task execution conditions, thereby storing a second list in a predetermined memory area, said second list being such that available clusters having second metric information that differ depending upon task execution conditions are listed;

wherein the second metric information of the clusters listed in the second list is read from said memory area and supplied as said metric information to said determination means.